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Checklist of True Weevils (Coleoptera: Curculionidae) from Rancho Frio, Darien National Park, Panama

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Abstract. – A checklist for the species of Curculionidae collected in the surroundings of the Rancho Frio Biological Station, Darien National Park, Panama is presented. Specimens were collected from March 21to April 4, 2000, and November 7, 2000, to January 24, 2001, using seven Malaise traps. 343 specimens of Curculionidae (excluding Scolytinae and Platypodinae) were captured and identified, representing 78 species, 49 genera and 21 tribes. *Philinna gibbicollis* Hustache, 1939 and *Desmosomus longipes* Perty, 1832 are recorded for the first time for Panama. This is the first checklist, although very general, on the biodiversity of the true weevils from Darien National Park, which is part of the Tumbes-Choco-Magdalena hotspot.

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Introduction

The entomological fauna of Central America is extremely rich, and Panama is no exception; the diversity of species in the country is sizable, and several new taxa are described or recorded yearly (e.g. Clark, 1996; Prena, 2013; Hespenheide, 2017; Anzaldo, 2017; Anderson, 2018; Atencio *et al*., 2022). True weevils (Curculionidae) are the largest group of Coleoptera, according to O'Brien & Wibmer (1982), in America, at least 843 genera and 7068 species are recorded, meanwhile Panama numbers more than 1450 known species (Wibmer & O'Brien, 1986, 1989).

Since George Champion, at the end of the 19th century, collected more than 15,000 beetle specimens –including weevils– as part of the work of Goodman and Salvin's Biologia Centrali Americana in Guatemala and western Panama, some contributions have been made to the knowledge of Panamanian weevils (e.g. Vaurie, 1976, 1978; Wolda *et al*., 1998; Anderson, 2002; Prena, 2003; Hespenheide, 2005; Collantes, 2010; Anzaldo, 2017; Anderson, 2018; Atencio *et al*., 2022), even so, their diversity is still poorly known, mainly in eastern region of Panama. This paper aims to give the first checklist of true weevils occurring in the Darien National Park.

Material and methods

The Darien National Park (PND) is in the eastern region of the country, extending practically along the border with Colombia with an extension of 579,000 hectares. It has a cover of humid and very humid tropical forests, as well as premontane rain forest in the Tacarcuna region (Lanuza-Garay & Santos Murgas, 2018).

The curculionids treated in this research were caught with seven Malaise traps (Townes modified), from March 21st to April 4th, 2000, and November 7th, 2000 to January 24th, 2001 in the PND, Rancho Frio Station, Pirre (08°01'11" N 77°43'57" W). All collected specimens were deposited in the Museo de Invertebrados G. B. Fairchild, Universidad de Panamá (MIUP), and identified by our friend and colleague Henry Stockwell (who passed away in 2023). For new records, the publication of Perty (1833), Hustache (1939), and Anzaldo (2017) were used as references.

There are many views on curculionoid systematics (e.g. Crowson, 1955, 1981, 1984, 1986; Morimoto, 1962a, 1962b, 1976; Vaurie, 1976; Wood, 1986; Thompson, 1992; Zimmerman, 1993, 1994a, 1994b; Kuschel, 1995; Morrone, 1997; Alonso-Zarazaga & Lyal, 1999; Marvaldi & Morrone, 2000; Morrone, 2000; Prena, 2001, 2003, 2010; Meregalli, 2003; Morimoto & Kojima 2003, 2004; Marvaldi *et al*., 2002; Marvaldi & Lanteri, 2005, Rheinheimer, 2015; Legalov, 2018). However, we follow the Alonso-Zarazaga & Lyal (1999), Alonso-Zarazaga *et al*. (2017) and Legalov (2018) taxonomic classifications of Curculionidae, which demote Brachyceridae and Dryophthoridae to subfamilies of Curculionidae *sensu lato* and include Cryptorhynchinae in Molytinae (Lyal, 2014). Based on molecular phylogenies, we prefer to treat Baridinae and Ceutorhynchinae as separate subfamilies and not as part of the Conoderinae *s.l.* (as introduced by Zherikhin & Egorov, 1991 and provisionally maintained by Prena *et al*., 2014 and Alonso-Zarazaga *et*

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al., 2017) although to date that arrangement has not been congruent with this classification (Gunter *et al*., 2016, Anzaldo, 2017).

Results

Three hundred forty-three specimens of seventy-eight species of Curculionidae (not including Scolytinae and Platipodinae), are recorded from Darien in this paper. They belong to 49 genera and 21 tribes (Table 1); two of them are new distribution records for Panama. In the following list, the totals of examined individuals of each species and morphospecies are listed in brackets [ ]. New country records are marked with an asterisk and documented in the second section. Most representative were Conoderinae, Molytinae, and Baridinae (See table 1 and Fig. 1)

Family **Curculionidae** Latreille, 1802

Subfamily **Baridinae** Schönherr, 1836

Tribe **Apostasimerini** Schönherr, 1844

Cylindrocerus Schönherr, 1826
  Cylindrocerus circumlineatus Champion, 1908 [2]
  Cylindrocerus lissonotus Champion, 1908 [2]
Plocamus LeConte, 1876
  Plocamus clavisetis Champion, 1908 [1]
Buchananius Kissinger, 1957
  Buchananius costatus (Champion, 1908) [2]
Lamprobaris Champion, 1908
  Lamprobaris sp. nr. *cucullata* Champion, 1908 [4]
Geraeus Pascoe, 1889
  Geraeus cemas (Boheman, 1836) [7]
  Geraeus orichalceus Champion, 1908 [1]

Tribe **Madarini** Jekel, 1865

Subtribe **Madarina** Jekel, 1865

Glyptobaris Casey, 1892
  Glyptobaris rugata (Boheman, 1844) [1]
Linomadarus Casey, 1922
  Linomadarus bistrigellus (Boheman, 1844) [3]
Solaria Champion, 1908
  Solaria curtula Champion, 1908 [1]

Subtribe **Tonesiina** Alonso-Zarazaga & Lyal, 1999

Parisoschoenus Faust, 1896
  Parisoschoenus expositus (Champion, 1908) [13]
  Parisoschoenus sp.1 [1]

Tribe **Optatini** Champion, 1907

Pardisomus Pascoe, 1889
  Pardisomus panamensis (Kuschel, 1958) [3]

Tribe **Pantotelini** Lacordaire, 1865

Subtribe **Cyrionychina** Casey, 1922

Cyrionyx Faust, 1896
  Cyrionyx octocostatus Champion, 1907 [6]
Pistus Faust, 1894
  Pistus camelus (Champion, 1907) [1]

Tribe **Peridinetini** Lacordaire, 1865

Peridinetus Schönherr, 1837
  Peridinetus irroratus (Fabricius, 1787) [1]

Subfamily **Ceutorhynchinae** Gistel, 1848

Tribe **Cnemogonini** Colonnelli, 1979

Hypocoeliodes Faust,1896
  Hypocoeliodes pulvereus Champion, 1907 [1]

Subfamily **Conoderinae** Schönherr, 1833

Tribe **Piazurini** Lacordaire, 1865

Piazurus Schönherr, 1825
  Piazurus alternans Kirsch, 1875 [20]
  Piazurus laetus Pascoe, 1886 [22]
  Piazurus maculipes Gyllenhal, 1838 [23]
  Piazurus melanostictus Boheman, 1838 [4]
  Piazurus stigmaticus Champion, 1906 [5]
  Piazurus sulphuriventris Heller, 1906 [3]
Pseudopinarus Heller, 1906
  Pseudopinarus condyliatus (Boheman, 1838) [3]
  Pseudopinarus guyanensis Hustache, 1938 [11]

Tribe **Zygopini** Lacordaire, 1865

Arachnomorpha Champion, 1906
  Arachnomorpha circumlineata Champion, 1906 [1]
Hoplocopturus Heller, 1895
  Hoplocopturus mariae Champion, 1906 [23]
  Hoplocopturus nigripes Champion, 1906 [2]
Paramnemyne Heller, 1895
  Paramnemyne decemcostata Champion, 1906 [2]
Poecilogaster Heller, 1895
  Poecilogaster brevis (Waterhouse, 1879) [1]
Zygops Schönherr, 1826
  Zygops histrio Boheman, 1838 [4]
  Zygops tridentatus Gyllenhal, 1838 [16]
  Zygops sellatus Champion, 1906 [4]
  Zygops sobrius (Gyllenhal, 1838) [14]
Macrocopturus (Heller, 1895)
  Macrocopturus lamprothorax (Heller, 1895) [14]

Tribe **Lechriopini** Lacordaire, 1865

Copturomorpha Champion, 1906
  Copturomorpha sp. [2]
Eulechriops Faust, 1896
  Eulechriops albofasciatus Champion, 1906 [2]
  Eulechriops sp.1 [3]
  Eulechriops sp. 2 [1]
Lechriops Schönherr, 1825
  Lechriops analis Champion 1906 [13]
  Lechriops canescens Champion 1906 [2]
  Lechriops paroticus (Pascoe, 1880) [5]
  Lechriops vestitus (Boheman, 1838) [2]
Microzygops Champion, 1906
  Microzygops nigrofasciatus Champion 1906 [4]

Tribe **Trichodocerini** Champion, 1906

Trichodocerus Champion, 1906
  Trichodocerus brevilineatus Champion, 1906 [2]

Incertae sedis

Philinna Champion, 1906
  Philinna bicristata Champion, 1906 [1]
  Philinna gibbicollis Hustache, 1939 [1]*

Subfamily **Curculioninae** Latreille, 1802

Tribe **Camarotini** Schönherr, 1833

Odontopus Say, 1832
  Odontopus nigrispinis (Lacordaire, 1863) [1]
Camarotus Germar, 1833
  Camarotus costaricensis Voss, 1923 [1]

Table 1. Number of tribes, genera, species and individuals of each subfamily of Curculionidae collected in Darien National Park.

Taxa	Tribes	Genera	Species	Individuals
Curculionidae				
Baridinae	5	13	16	49
Ceutorhynchinae	1	1	1	1
Conoderinae	4	14	30	196
Curculioninae	1	2	2	2
Dryophthorinae	2	4	6	33
Entiminae	2	3	4	5
Molytinae	6	12	19	57
	21	49	78	343

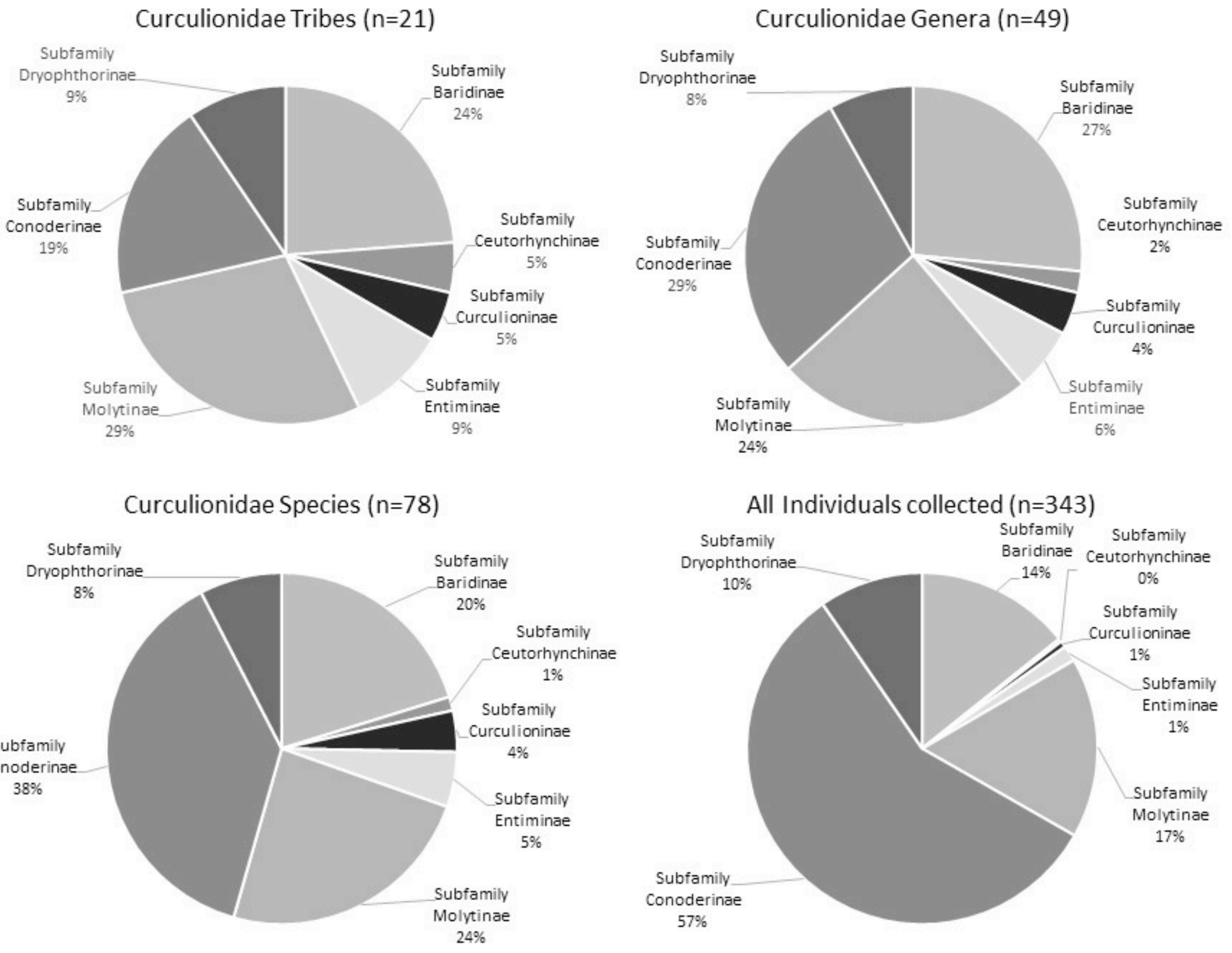

Fig. **1**. Community of Curculionidae collected in Darien National Park, shown as percentages of: **a**. Tribes. **b**. Genera. **c**. Species. **d**. All individuals collected.

Subfamily **Dryophthorinae** Schönherr, 1825

Tribe **Orthognathini** Lacordaire, 1865

Rhinostomus Rafinesque, 1815
  Rhinostomus barbirostris (Fabricius, 1775) [11]
  Rhinostomus thompsoni Vaurie, 1970 [12]

Tribe **Rhynchophorini** Schönherr, 1833

Rhynchophorus Herbst, 1795
  Rhynchophorus palmarum (Linnaeus, 1758) [1]
Cactophagus LeConte, 1876
  Cactophagus circumdatus (Champion, 1910) [3]
Rhodobaenus LeConte, 1876
  Rhodobaenus nawradii (Kirsch, 1869) [2]
  Rhodobaenus quadripunctatus (Chevrolat, 1883) [4]

Subfamily **Entiminae** Schönherr, 1826

Tribe **Anypotactini** Champion, 1911

Prepodellus Champion, 1911
  Prepodellus viridisquamis Champion, 1911 [1]

Tribe **Eustylini** Lacordaire, 1863

Eustylus Schönherr, 1843
  Eustylus sexguttatus Champion, 1911 [2]
Exophthalmus Schönherr, 1823
  Exophthalmus impositus Pascoe, 1880 [1]
  Exophthalmus sulcicrus Champion, 1911 [1]

Subfamily **Molytinae** Schönherr, 1823

Tribe **Cholini** Schönherr, 1825

Cholus Germar, 1823
  Cholus sp. [6]
  Cholus alutaceus (Champion, 1903) [1?]
Desmosomus Perty, 1832
  Desmosomus longipes Perty, 1832 [1]*

Tribe **Molytini** Schönherr, 1826

Heilipodus Kuschel, 1955
  Heilipodus phrynodes (Pascoe, 1889) [2]
  Heilipodus spinipennis (Champion, 1906) [3]
Hilipinus Champion, 1902
  Hilipinus punctatoscabratus (Boheman, 1843) [1]
Marshallius Kuschel, 1955
  Marshallius securifer (Champion, 1906) [1]
Rhineilipus Kuschel, 1955
  Rhineilipus cuvieri (Boheman, 1843) [1]
  Rhineilipus intensus (Pascoe, 1881) [1]
  Rhineilipus penicillatus (Champion, 1902) [2]

Tribe **Cryptorhynchini** Schönherr, 1825

Staseas Champion, 1905
  Staseas granulatus Champion, 1905 [7]
Thrasyomus Pascoe, 1880
  Thrasyomus conotracheloides Champion, 1905 [1]

Tribe **Psepholacini** Lacordaire, 1866

Hemiliopsis Champion, 1905
  Hemiliopsis nudicollis (Chevrolat, 1880) [1]

Tribe **Cleogonini** Gistel, 1856

Chalcodermus Dejean, 1835
  Chalcodermus sp. [1]
  Chalcodermus calidus (Fabricius, 1802) [23]
Conotrachelus Schönherr, 1845
  Conotrachelus arachnoides Champion, 1904 [1]
  Conotrachelus obliquelineatus Champion, 1904 [1]
  Conotrachelus turbatus Faust, 1894 [1]

Tribe **Petalochilini** Lacordaire, 1863

Nanus Schönherr, 1844
  Nanus uniformis Boheman, 1844 [2]

Curculionidae new records

Philinna gibbicollis Hustache, 1939

(Fig. 2 a-d)

Diagnosis. – *Philinna gibicollis* can be distinguished from *P. bicristata* (Fig. 2d) by the following characters: the pronotum has a conical strong medial gibbosity, in frontal view widened and vertical above the head, and the elytral humeral angle without dense tufts of elongate setae.

Host plants. – Unknown.

Previous distribution range. – South America (Wibmer and O'Brien 1986; Anzaldo, 2017). First record for Panama.

Desmosomus longipes Perty, 1832

(Fig. 3 a-d)

Diagnosis. – *D. longipes* can be distinguished from other members of subtribes Cholina or Rhinastina recorded in Panama by the following characters: rostrum brownish, smoothed. Head scarcely punctate, blackish, with two dense yellowish pubescent longitudinal bands, starting in the metarostrum following toward frons and between eyes, remaining surface glabrous. Prothorax rugose, with three yellowish longitudinal bands, remaining surface blackish. Elytra crenulate, elytral suture and lateral longitudinal bands yellowish, remaining surface glabrous, blackish, legs brownish.

Host plants. – Some species stem-borers in Bamboo in Brazil (Da Costa Lima, 1956; Perez *et al*., 2012).

Previous distribution range. – South America (Perty 1832). First record for Panama

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We dedicated this work to Henry Stockwell, mentor and friend, a devoted lover of weevils of Panama. Our thank goes to Henry Hespenheide (University of California-L.A.), Salvatore Anzaldo (Arizona State University) who help us to identify some specimens of Conoderinae, Jens Prena for confirm the identification of *Geraeus orichalceus*, Annette Aiello (Smithsonian Tropical Research Institute) for reviewing the manuscript and for providing valuable comments that improved the manuscript.

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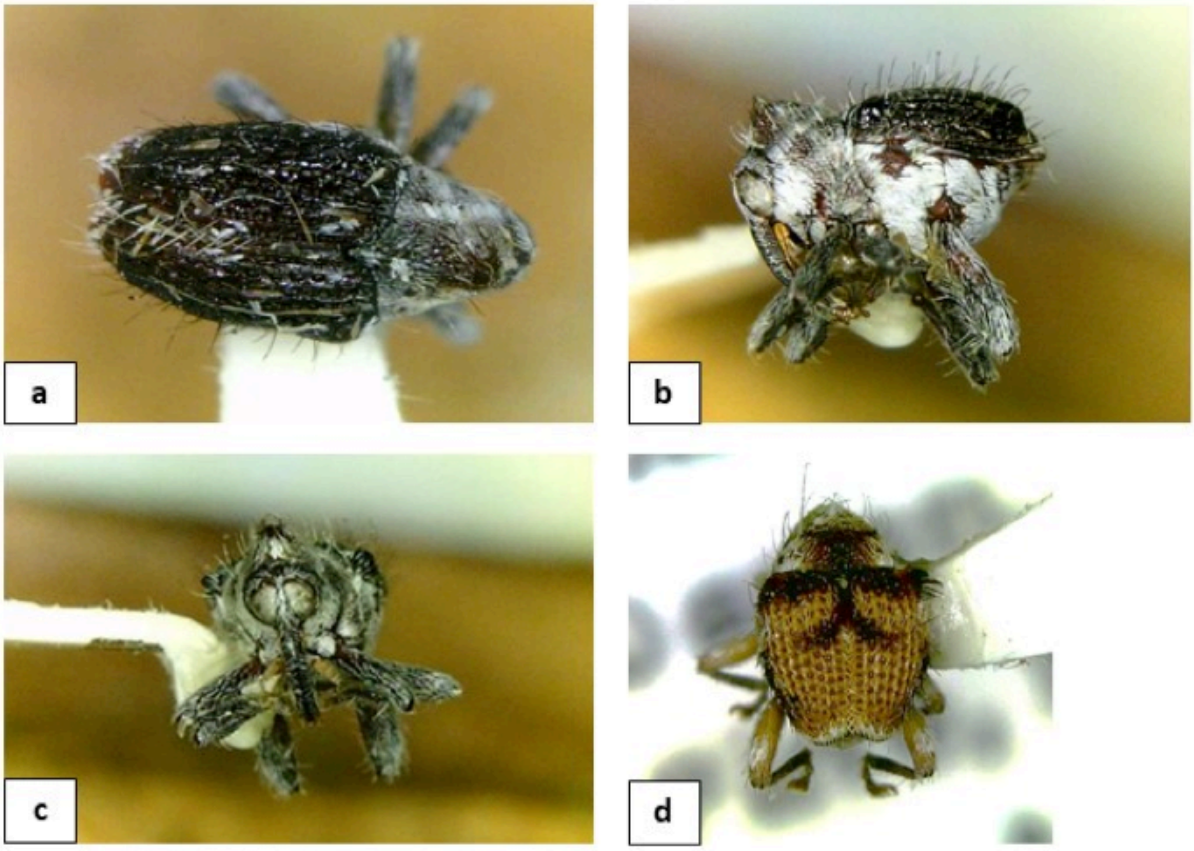

Fig. **2**. *Philinna* species. **2 a**-**c**. *P. gibbicollis* Hustache. **a**. Dorsal habitus. **b**. Lateral view. **c**. Head and prothoracic gibbosity, frontal view. **2d**. *P. bicristata* Champion, dorsal habitus.

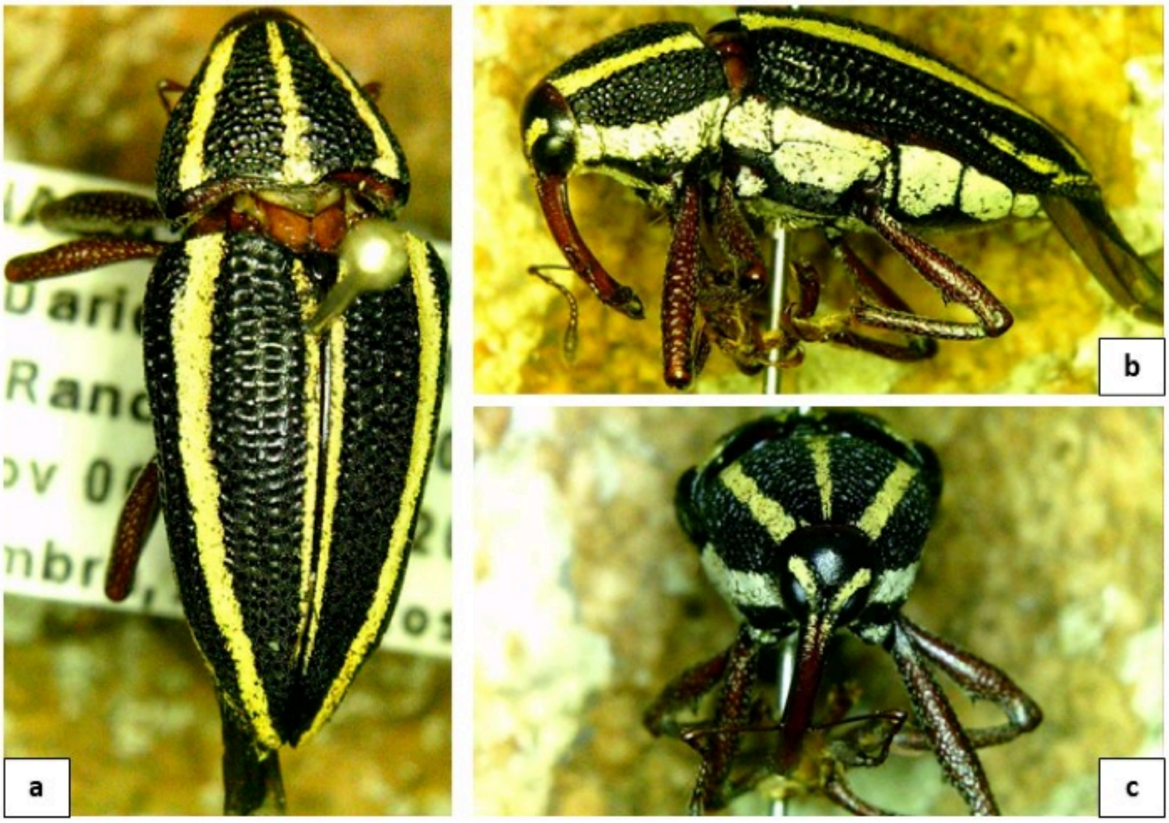

Fig. **3 a**-**c**. *Desmosomus longipes* Perty. **a**. Dorsal habitus. **b**. Lateral view. **c**. Head, frontal view.

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Résumé

Lanuza-Garay A., Santos-Murgas A. & Cambra R.A., 2024. – Liste des charançons (Coleoptera: Curculionidae) de Rancho Frio, parc national de Darien, Panama. *Faunitaxys*, 12(45): 1 – 7.

Une liste des espèces de Curculionidae collectées dans la station biologique de Racho Frío, dans le parc national de Darien, au Panama, est présentée. Des spécimens ont été collectés du 21 mars au 4 avril 2000 et du 7 novembre 2000 au 24 janvier 2001, à l'aide de sept pièges Malaise. 343 spécimens de Curculionidae (hors Scolytinae et Platypodinae) ont été capturés et identifiés, représentant 78 espèces, 49 genres et 21 tribus. *Philinna gibbicollis* Hustache, 1939, et *Desmosomus longipes* Perty, 1832 sont enregistrés pour la première fois au Panama. Il s'agit de la première liste de contrôle, bien que très générale, sur la biodiversité des véritables charançons du parc national du Darien, qui fait partie du hotspot Tumbes-Choco-Magdalena.

Mots-clés. – Coléoptères, Curculionidae, néotropiques, Amérique centrale, est du Panama, nouveaux signalements.

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Chen Z.-T., 2024. – *Cranopygia guizhouensis* **sp**. **nov**., a new earwig species of Pygidicranidae (Insecta: Dermaptera) from China. *Faunitaxys*, 12(38): 1 – 4. https://doi.org/10.57800/faunitaxys-12(38)

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Vitali F., 2024. – Taxonomic notes about some Indo-Australian Lamiini (Coleoptera Cerambycidae). *Faunitaxys*, 12(43): 1 – 11. https://zoobank.org/4D315C8D-2EB6-4F66-819D-B606FF4ACDA3

Fei-Yi Xin, Yi-Feng Zhang & Zhi-Hao Qi, 2024. – *Falcicornis zhongi* Xin & Qi, **sp**. **nov**., a new stag beetle species from Vietnam (Coleoptera: Lucanidae: Lucaninae). *Faunitaxys*, 12(44): 1 – 6. https://doi.org/10.57800/faunitaxys-12(44)

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SOMMAIRE

Liste des charançons (Coleoptera: Curculionidae) de Rancho Frio, parc national de Darien, Panama.

Alfredo Lanuza-Garay, Alonso Santos-Murgas & Roberto A. Cambra . . . . . . 1 – 7

CONTENTS

Checklist of True Weevils (Coleoptera: Curculionidae) from Rancho Frio, Darien National Park, Panama.

Alfredo Lanuza-Garay, Alonso Santos-Murgas & Roberto A. Cambra . . . . . . 1 – 7

Illustration de la couverture :

Piazurus caprimulgus Schoenherr, 1838 (Conoderinae: Piazurini) is one of the seventy-seven species of *Piazurus* recorded in both Central and South America, including Panama, recognized by the Elytra with a black transverse band that is expanded forward and backward of the elytral suture and runs forward along the sides reaching the humeri.

Crédits:

Alfredo Lanuza-Garay : Fig. 1-3.

Miriam Arrueta-STRI : Couverture.

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